

October 12, 2010

Kimberly D. Bose, Secretary  
Federal Energy Regulatory Commission  
888 First Street, N.E., Room 1A  
Washington, D.C. 20426

**Re: OEP/DG2E/Gas 1  
TransCanada Alaska Company LLC  
Alaska Pipeline Project  
Docket No. PF09-11-000**

**Project Field Studies Update**

Dear Ms. Bose:

The purpose of this letter is to provide the Federal Energy Regulatory Commission with an update on progress related to the gathering of environmental and engineering data, including ongoing field work, for the Alaska Pipeline Project ("APP" or "Project"). TransCanada Alaska Company LLC ("TC Alaska") and its Project co-participant, ExxonMobil Alaska Midstream Gas Investments, LLC ("EMAMGI"), are jointly progressing the APP. The information presented here demonstrates the substantial progress that APP has made in gathering data in the field, and addresses the Commission's observations about progress included in its latest (tenth) report to Congress.<sup>1</sup> TC Alaska's commitment under the Alaska Gasline Inducement Act (AGIA) to file its application for a certificate of public convenience and necessity by October 2012 remains unchanged, and the APP is progressing its field studies and other work in support of that milestone.

This letter summarizes the:

- Status of environmental and engineering field work along the proposed pipeline route
- Schedule for future field work to ensure the filing of a complete certificate application with the FERC in October 2012

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<sup>1</sup> *Tenth Report to Congress on Progress Made in Licensing and Constructing the Alaska Natural Gas Pipeline* as filed by the Federal Energy Regulatory Commission, August 2010; electronically available on the Internet at: <http://www.ferc.gov/legal/staff-reports/angta-tenth.pdf>.

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## **STATUS OF ENVIRONMENTAL AND ENGINEERING FIELD WORK**

The Project team undertook an intensive environmental (biophysical and cultural resources) baseline and engineering field work program in 2010. Field work conducted in 2010 included:

- Phase I cultural resources investigations
- Fish and fish habitat surveys
- Stream hydrology studies
- Wetland delineations
- General route reconnaissance
- Fault crossing surveys
- Geotechnical investigations
- Borrow site identification

The 2010 field program focused mainly on the northern two-thirds of the pipeline route from the North Slope to Delta Junction (**Figure 1**). Most of the field work on the southern one-third of the route (from Delta Junction south) is planned for the 2011 field season. Limited work was completed in the area east of Delta Junction along the Alaska Highway to the Alaska/Yukon border, and south along the Richardson Highway to Valdez.

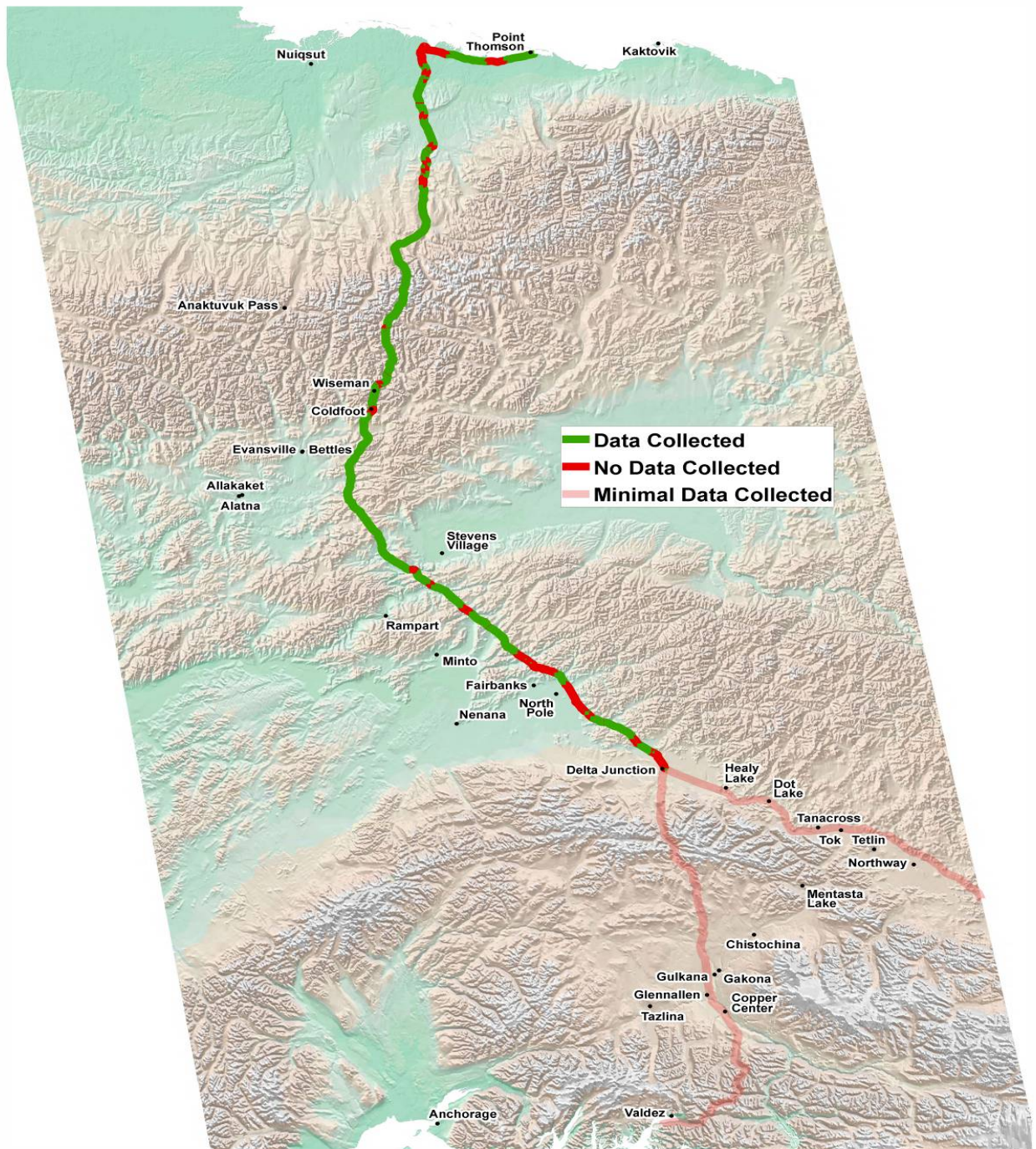
A majority of the Project area between the North Slope and Delta Junction is on public lands administered by the Bureau of Land Management (BLM) and the State Pipeline Coordinator's Office, Alaska Department of Natural Resources (SPCO). The APP acquired permits and authorizations from the BLM and SPCO for surveys on those lands, as well as the necessary permits from the Alaska Department of Fish and Game (ADF&G), Alaska Department of Transportation and Public Facilities (DOT/PF), Fairbanks North Star Borough (FNSB), Alyeska Pipeline Service Company (APSC), Mental Health Lands Trust (MHT), and University of Alaska (UA).

The APP deployed approximately 50 environmental professionals into the field in June 2010 for environmental surveys. By July 2010, the APP had 90 field staff deployed, and by August 2010, that number increased to almost 150 field staff. All environmental staff returned from the field by late-September 2010; engineering field staff will remain in the field into late October.

The following is a survey-by-survey summary of the 2010 field program. The statistics provided are based on the 2010 pipeline corridor definition only from the North Slope to Delta Junction and are subject to change based on optimizations and ongoing work.

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**Figure 1.**  
**Summer 2010 Environmental Studies Data Collection Areas within Alaska.**



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**Cultural Resources Investigations:** The Alaska Pipeline Project conducted Phase I Identification Level cultural resources surveys of the Project area in 2010. Agency-approved survey protocols involved assessing previous cultural resource investigations in the area and segmenting the proposed route into areas of generally "low" or "high" archaeological sensitivity. An aerial survey of the Project area refined the sensitivity mapping and allowed for targeted on-the-ground testing of select high potential areas. Pedestrian surveys were completed in low and high probability areas.

After reviewing previous cultural resources investigations, the APP identified 143 known sites within the survey corridor. The 2010 cultural resources survey stretched 548 miles from the North Slope to Delta Junction, with field work verifying previously known sites and testing that resulted in the identification of 60 new sites over a span of approximately 343 miles. The 2011 survey program will target the remaining (unsurveyed) corridor between the North Slope and Delta Junction as well as the Project area south of Delta Junction. Future field work will also include preliminary Phase II investigations as appropriate.

**Fish and Fish Habitat Surveys:** The goal of these surveys is to identify the presence of fish and/or fish habitat at select water body crossings along the pipeline corridor. The surveys involve techniques for observing fish presence, including: electrofishing, minnow trapping, beach seining, hook/line sampling, and visual surveys. Water quality measurements were collected for temperature, dissolved oxygen, pH, conductivity, color, and turbidity. Additionally, habitat mapping (riffles, pools, and spawning and rearing areas) was documented. The survey protocol was approved by the ADF&G and received a State of Alaska Fish Habitat Permit on June 9, 2010.

A total of 379 water bodies have been identified in the Project area between the North Slope and Delta Junction. Of that number, 277 were sampled in 2010, and 102 remain to be surveyed. Additional water bodies within the Project area south of Delta Junction will be sampled in 2011.

**Stream Hydrology Studies:** Stream hydrology studies were initiated to document the hydrologic characteristics of the streams and rivers at the proposed pipeline water body crossings. Each water body was evaluated for flow type (perennial, seasonal or intermittent), ordinary high water mark, discharge (measured at two or more locations per stream), cross-sectional area, bank full width, water surface width, channel characteristics, and bed and bank characterization. Other information was collected as necessary to make a jurisdictional determination (for Waters of the United States and connectivity to Traditional Navigable Waters).

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As noted above, a total of 379 water bodies were identified in the Project area between the North Slope and Delta Junction. The 2010 stream hydrology program surveyed 217 of those water bodies. The 2011 program will target the remaining 162 unsurveyed water bodies between the North Slope and Delta Junction, as well as water bodies in the Project area south of Delta Junction.

**Wetland Delineations:** The Alaska Pipeline Project's environmental consultants conducted desktop wetland delineation and initiated field verification surveys throughout the Project area in 2010. During the spring and summer of 2010, wetland specialists mapped and classified wetlands types and waters within a 2,000-foot corridor (e.g., 1,000-feet on each side of the pipeline corridor centerline currently used for planning) for all of the proposed pipeline corridors under consideration by the APP using recent (2008) high-resolution (6-inch pixel) aerial photography. After the mapping exercise, field staff surveyed (ground-truthed) a subset of the mapped wetlands within a 300-foot corridor (centered on the proposed pipeline route). The Project's survey protocol followed the U.S. Army Corps of Engineers ("USACE") 2007 Alaska Regional Supplement Form as required by the USACE Alaska District. The survey protocol was formally approved by the USACE Alaska District on July 2, 2010.

To verify wetland types, an aerial photography mapping exercise identified 803 targets between the North Slope and Delta Junction. The 2010 field program sampled 628 of these wetlands. The 2011 field program will target the remaining unsurveyed wetlands between the North Slope and Delta Junction, as well as wetlands in the Project area south of Delta Junction. The results of the 2010 ground-verification are pending review and subsequent incorporation into the preliminary wetlands map.

**Engineering Field Work:** Engineering field work undertaken in 2010 included general route reconnaissance, fault crossing surveys, geotechnical investigations, and borrow site identification. The field work in 2010 built on previous field work from two prior years.

#### *Route Reconnaissance*

The Alaska Pipeline Project conducted aerial- and ground-based reconnaissance of its pipeline corridor in 2010. The purpose of the corridor level reconnaissance was to assess pipeline construction along the proposed route and to make adjustments taking into account features, such as at major water body crossings and in areas of rugged terrain. The aerial reconnaissance team included environmental, engineering, and construction specialists. Route reconnaissance also focused on assessing construction workspace requirements and defining the Project footprint. Route reconnaissance resulted in about 130 miles of route changes, which were incorporated into the Project definition before the 2010 environmental field work began. Prior to 2010, Project engineers conducted aerial reconnaissance to capture stereo aerial photography, immersive video, and Light

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Detection and Ranging (LiDAR) data of the Project area. Additional LiDAR data collection has just been completed and data reduction is underway.

*Fault Crossing Surveys*

The Alaska Pipeline Project conducted aerial- and ground-based field studies in 2010 to verify and delineate geologic faults intersected by the proposed route. A review of existing literature and available LiDAR data suggested that the pipeline would cross 13 active faults in Alaska. Field work at suspected fault sites confirmed the presence of faults at six (6) of those locations and ruled out faults at three (3) locations. Further studies are needed at three (3) additional sites. The APP excavated trenches at two confirmed fault locations to determine the date, direction, and magnitude of last displacement. With the APP's participation, the Alaska Division of Geological and Geophysical Surveys (DGGS) excavated a trench at a third confirmed fault location. Additional fault investigations are planned during future years.

*Geotechnical Investigations*

Since 2009, the Alaska Pipeline Project completed approximately 120 soil borings, collected 13 cubic yards of soil for laboratory uplift resistance testing, took various rock samples, and conducted numerous soil probes along the proposed pipeline route to assess the physical properties of the area soils. A geophysical survey program was also completed for total of 27 miles along the study corridor. Project engineers will consider potential geotechnical hazards, such as frost heave, acid rock drainage, and permafrost stability, in the pipeline design and construction planning. Geotechnical soil boring investigations are currently in progress through October 2010 and will continue intermittently throughout the planning stage of the Project. This year's uplift resistance sample collection program was concluded in mid-September.

*Acid Rock Drainage*

The APP investigated 14 potential acid rock drainage and metal leaching areas during 2010. Potential locations were compiled from terrain mapping take-off work depth to bedrock combined with take-offs of rock type from government and industry bedrock maps in Alaska. During the field effort, rock types were verified. The 2011 field investigations will include sampling and testing at locations identified during the studies conducted in 2010.

*Borrow Site Identification*

The Alaska Pipeline Project conducted initial site reconnaissance visits at approximately 85 potential borrow sites to assess volume and quality of granular materials at the sites.

**SCHEDULE FOR FUTURE FIELD WORK**

Future field programs (**Attachment 1**) will focus on completing the surveys started in 2010 (as described above), and will be expanded to include ambient air and

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meteorological monitoring; fish overwintering assessments; marine dredge and benthic sampling; Phase II cultural resource investigations; socioeconomic and subsistence studies; traditional knowledge studies; endangered species surveys; lake bathymetry surveys; Dall sheep studies; noise surveys; and contaminated site assessments.

The APP is in discussions with experts from the State of Alaska and other subject matter experts to ensure that adequate subsistence and traditional knowledge baseline data is available in a timely manner so that a socioeconomic and subsistence study can be included with the FERC application to assess the health-related effects of the Project's development on the local population. The APP has met with the Alaska Department of Health and Social Services and the Alaska Department of Fish and Game to assess their capabilities to assist the APP in this effort. Similarly, the APP has initiated planning necessary for efficient execution of field programs in these areas which are scheduled to begin next year.

The Alaska Pipeline Project continues to collect and analyze a large volume and broad range of environmental and engineering field data to develop the necessary applications for regulatory review and approval. APP will provide a formal update of the Data-Gap Analysis & Field Study Plan to the FERC by 1Q2011 reflecting a full assessment of the 2010 field study results.

In the meantime, please contact Mr. Larry Harms (281.654.8840 / larry.d.harms@exxonmobil.com) or Mr. Myron Fedak (907.564.3610 / myron.e.fedak@exxonmobil.com) if the Commission seeks additional information.

Respectfully submitted,

*/s/ Eugene R. Elrod*

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**Attachment 1**  
**Environmental Baseline Studies Program**

Resource Report Number	2010		2011	
	Summer	Winter	Summer	Winter
<b>Resource Report 1 – General Project Description</b>				
Aerial Photography**	<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>	
General Route Reconnaissance**	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Borrow Site Identification	<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>	
<b>Resource Report 2 – Water Use and Quality</b>				
Stream Hydrology Studies	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Contaminated Site Assessments			<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Wetland Delineations	<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>	
Lake Bathymetry Surveys			<input checked="" type="checkbox"/>	
<b>Resource Report 3 – Fish, Wildlife, and Vegetation</b>				
Fish and Fish Habitat Surveys	<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>	
Stream Hydrology Studies	<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>	
Fish Overwintering Assessments		<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>
Marine Dredge and Benthic Sampling		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Dall Sheep Studies			<input checked="" type="checkbox"/>	
Endangered Species Surveys			<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Raptor Surveys			<input checked="" type="checkbox"/>	
<b>Resource Report 4 – Cultural Resources</b>				
Phase I Cultural Resources Investigations	<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>	
Phase II Cultural Resources Investigations			<input checked="" type="checkbox"/>	
Traditional Knowledge Studies			<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
<b>Resource Report 5 – Socioeconomics</b>				
Socioeconomic Studies		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Subsistence Studies		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Traditional Knowledge Studies		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
<b>Resource Report 6 – Geology</b>				
Fault Crossing Surveys**	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Geotechnical Investigations**	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Borrow Site Identification	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
<b>Resource Report 7 – Soils</b>				
Geotechnical Investigations**	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Contaminated Site Assessments			<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
<b>Resource Report 8 – Land Use, Recreation, and Aesthetics</b>				
General Route Reconnaissance**	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Land Use and Recreational Status		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Aesthetics Analysis		<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>
<b>Resource Report 9 – Air Quality and Noise</b>				
Ambient Air & Meteorological Monitoring		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Noise Surveys			<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
<b>Resource Report 10 – Alternatives</b>				
General Route Reconnaissance**	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
<b>Resource Report 11 – Reliability and Safety</b>				
Fault Crossing Surveys**	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Geotechnical Investigations**	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Contaminated Site Assessments				

\*\* Field Work was also conducted in 2008 and 2009.

**NOTES:**

1. Some surveys are listed more than once as they provide input to more than one Resource Report.
2. Additional field work in 2012 may be added on an as-needed basis.